

# RECLAMATION

*Managing Water in the West*

## Installation of Stream-width PIT Tag Interrogation Systems in McGarvey Creek, Lower Klamath River Sub-Basin

Klamath Watershed Restoration Program Grant  
# 10AP20085 Yurok Tribe Fisheries Program

Klamath Project, Oregon  
Mid Pacific Region

### Finding of No Significant Impact



FONSI No.: KBAO-FONSI-11-002



U.S. Department of the Interior  
Bureau of Reclamation

January 2011

 ORIGINAL

 APPROVED

## FINDING OF NO SIGNIFICANT IMPACT

### McGarvey Creek PIT Tag Interrogation System Project

#### INTRODUCTION

The United States Bureau of Reclamation (Reclamation) has prepared an Environmental Assessment (EA), dated January 2011 entitled *McGarvey Creek PIT Tag Interrogation System Project*. This EA describes the environmental effects of providing funding to install stream-width PIT Tag Interrogation System and capture and tag juvenile Coho salmon. The EA was prepared to satisfy the procedural requirements of the National Environmental Policy Act (NEPA) (P.L. 91-190, as amended).

#### PROPOSED ACTION

Reclamation proposes to provide funding to the Yurok Tribal Fisheries Program (YTFP) to implement the activities as described in the Klamath Basin Restoration Program Grant # 10AP20085 entitled *Installation of Stream-width PIT Tag Interrogation Systems to Assess Non-natal Rearing Patterns and Distance of Upstream Non-natal Migrations of Juvenile Coho in McGarvey Creek, Lower Klamath River Sub-basin* and covered under the subject EA.

The purpose of the Proposed Action is to install and operate PIT tag interrogation systems in McGarvey Creek. The installation and operation of the PIT tag interrogation systems is needed to document use of McGarvey Creek by non-natal juvenile Coho salmon and to assess the minimum distance of upstream migration by non-natal juvenile Coho salmon. Operating the PIT tag interrogation systems in conjunction with upstream and downstream migrant trapping will substantially improve the ability to document migration patterns, habitat use, distance of upstream migration, estimate the number of smolts emigrating from McGarvey Creek and survival of natal and non-natal populations of Klamath Basin Coho.

#### SUMMARY OF EFFECTS

Reclamation's analysis indicates that the Proposed Action would result in significant impacts to the human or natural environment. The effects and consequences of the Proposed Action on various resources were analyzed in the EA. Evidence of coordination with the appropriate Federal, state, and local agencies and their comments are also included in the EA and its appendices. The Finding of No Significant Impact is based upon the following:

**Surface Water Resources** – The Proposed Action would include installing and operating PIT Tag interrogation systems and capturing and inserting PIT Tags into juvenile Coho, some of which would occur within the surface waters. Any potential impacts to water quality would be limited and temporary in nature. No impacts to water quantity are expected. No wetlands are present in the Proposed Action area. Therefore, the Proposed Action would not result in short-term or long-term significant impacts to surface water or resources dependent on surface water.

**Biological Resources** – The Proposed Action consists of two types of activities. The first activity includes the installation of PIT Tag interrogation systems within McGarvey Creek. This

activity could result in negligible impacts that would be limited to the immediate vicinity of the installation location and would be temporary in nature. The second activity includes the capturing and tagging of juvenile Coho salmon does have the potential to cause effects to the federally threatened fish species. However, the activities are covered by a Section 10 scientific research permit, Permit 1072, issued May 4, 1998. The Biological Opinion performed in conjunction with the issuance of Permit 1072 concluded that the action was not likely to jeopardize the continued existence of Southern Oregon/Northern California Coast Coho salmon. No other federally protected species or their habitats are expected to be impacted as a result of the proposed project. Further, the proposed project does not include activities that would be expected to have an impact on migratory birds protected under the Migratory Bird Treaty Act. The proposed project is being performed in an effort to benefit Coho salmon in the long term by obtaining valuable life history information. The project, as proposed, would not be expected to result in any short-term or long-term significant impacts to biological resources in the project area or surrounding area.

**Cultural Resources** – Based on the analysis of implementation of the Proposed Action, Reclamation concludes that the activities involved with the preferred alternative has no potential to cause effects to historic properties pursuant to the regulations at 36 CFR Part 800.3(a)(1). The actions would be temporary in nature, involve little to no ground disturbance, and will take place immediately adjacent to or within the waterway of McGarvey Creek. Therefore, implementation of the Proposed Action would not result in any short-term or long-term significant impacts to cultural resources. However, in the event of inadvertent discovery of cultural resources, Reclamation must be contacted immediately to conduct a post review discovery analysis as outlined in the Section 106 regulations at 36 CFR Part 800.13.

**Indian Trust Assets** - Reclamation is required to consider the impacts of project activities on Indian Tribal Trust Assets. The proposed project was reviewed by Reclamation’s Mid-Pacific Regional Office, Indian Trust Assets Coordinator, Patricia Rivera, on February 4, 2011 and a “no impacts to Indian Tribal Trust Assets” concurrence was received. Therefore, implementation of the Proposed Action would not result in significant impacts to Indian Trust Assets.

**Climate Change** – The Proposed Action would not result in any significant changes to the composition of the atmosphere and therefore would not result in significant impacts to climate change.

**Environmental Justice** – The Proposed Action would not disproportionately affect minorities or low-income populations and communities. There would not be significant impacts to human health or environmental effects associated with the Proposed Action.

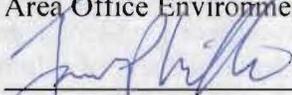
## **FINDING**

Based on the analysis of the environmental impacts as described in the EA, Reclamation has determined that the proposed federal actions would not significantly affect the quality of the human environment and does not require the preparation of an Environmental Impact Statement. Further, the proposed federal actions are consistent with existing national environmental policies

and objectives and do not otherwise include any condition requiring consultation pursuant to Section 102(2)(c) of NEPA.

**DECISION**

It is Reclamation's decision to provide funding for the purpose of installing and operating PIT Tag interrogation systems and capturing and inserting PIT Tags into juvenile Coho salmon. Implementation of the proposed action may take place once the appropriate permits have been obtained and mitigation requirements completed as described in this Finding of No Significant Impact and Environmental Assessment. Reclamation believes that the Proposed Action Alternative best meets the purpose and need of the proposal.

FONSI Prepared By:	<u>Kristen L. Hiatt</u>	Date:	<u>February 7, 2011</u>
Recommended:	 <u>Area Office Environmental Specialist</u>	Date:	<u>2-9-2011</u>
Approved:	 <u>Jason Phillips</u> Area Manager Klamath Basin Area Office Bureau of Reclamation	Date:	<u>2-9-11</u>

## Hiatt, Kristen L

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**From:** Rivera, Patricia L  
**Sent:** Friday, February 04, 2011 10:31 AM  
**To:** Hiatt, Kristen L  
**Subject:** RE: ITA Request - Yurok PIT Reader Installation and Coho PIT Tagging

Kristen,

I reviewed the proposed action where Reclamation is proposing to provide funding to the Yurok Tribe for the purpose of implementation of a project that would install and operate six Stream-width Passive Integrated Tag (PIT) antenna systems at three locations. The project would also consist of capturing and tagging Coho salmon.

The installation of six 20 ft x 3 ft PIT tag antennas would be installed in three locations of McGarvey Creek. Two PIT antennas would be placed within the channel approximately 10 meters apart to record directional movement of PIT tagged fish. Each antenna is 20 ft long by 3 ft high with 10 AGW, 105 strand wires wrapped inside 6 inch schedule 80 PVC pipe. Each antenna would be installed at the stream bed level and within existing stream width. Antennas would be anchored using six anchors; an 8 ft T post would be placed on each end at or near the stream bank and four earth/rebar pins would be put into the stream bed holding the bottom in place.

In two locations a 3 in diameter by 8 ft high galvanized pole would be mounted above ground approximately 100 – 200 ft from the stream bank. This pole would hold the Multiplex (Mux) unit. A small platform would be constructed above ground and above the high water mark to hold a Nema Weatherproof enclosure (33 in x 26.3 in x 12 in) with four AGM 12v sealed batteries. At or near this same site a platform would be constructed above ground and above the high water mark to hold two Sharp NT-175W solar modules. All cables (LMR 400 ultra coax wire) connecting the mux unit to power supply and to antennas will be above ground.

All upland work activities would be above ground or through the use of existing infrastructure and would not result in ground disturbance. The capturing of Coho salmon would be performed using existing infrastructure.

The proposed action does not have a potential to affect Indian Trust Assets. The project location is inside the Yurok Reservation.

Patricia

## Hiatt, Kristen L

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**From:** Nickels, Adam M  
**Sent:** Tuesday, November 30, 2010 4:25 PM  
**To:** Hiatt, Kristen L  
**Cc:** Korson, Charles S (Chuck); Land, Jennie M; Barnes, Amy J; Bruce, Brandee E; Dunay, Amy L; Fogerty, John A; Goodsell, Joanne E; Overly, Stephen A; Perry, Laureen (Laurie) M  
**Subject:** Compliance for Pit Reader Installs at McGarvey Creek KBRP  
**Attachments:** 11-KBAO-032 Pit Reader Install CR EA section.docx

Project No. 11-SCAO-032

Kristen:

Attached is the cultural resources section for an EA for assessing effects to a proposed action to provide funding to the Yurok Indian tribe for pit tag monitoring of Coho Salmon along McGarvey Creek. After reviewing the proposed action, I conclude that the proposed action has no potential to cause effects to historic properties pursuant to 36 CFR Part 800.3(a)(1). The proposed action is limited to the existing water way channel with little to no ground disturbance proposed. This email and the attached cultural resources section for the EA, is intended to convey the conclusion of the Section 106 process for this undertaking. I request that you include the attached cultural resources section in the final EA editing format appropriately to follow a specific formatting style. Please be advised, if the proposed action changes, Reclamation may have additional requirements and considerations pursuant to Section 106 of the NHPA.

**Adam M. Nickels** - Archaeologist - M.S.  
Phone: 916.978.5053 - Fax: 916978.5055 - [www.usbr.gov](http://www.usbr.gov)

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**US BRIDGES** - Mid-Pacific Regional Office MP-153 2800 Cottage Way - Sacramento, California 95825



# RECLAMATION

*Managing Water in the West*

## **McGarvey Creek PIT Tag Interrogation System Project**

**Klamath Basin Restoration Program Grant  
# R10AP20085 Yurok Tribal Fisheries Program**

**Klamath Project  
Mid-Pacific Region**

### **Environmental Assessment**



EA No.: KBAO-EA-11-002



**U.S. Department of the Interior  
Bureau of Reclamation**

January 2011

## **Mission Statements**

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitment to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water related resources in an environmentally and economically sound manner in the interest of the American public.

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# **Chapter 1 Introduction and Background Information**

## ***1.1 Introduction***

The Bureau of Reclamation proposes to provide Klamath Basin Restoration Program (KBRP) grant funding to the Yurok Tribe Fisheries Program (YTFP) to install and operate Passive Integrated Technology (PIT) tag interrogation systems within McGarvey Creek, a tributary to the Klamath River. The grant funding would also be used to perform upstream and downstream trapping and PIT tagging of juvenile Coho salmon.

This Environmental Assessment (EA) includes discussion of the purpose and need for the proposed action, alternatives, environmental consequences of the alternatives, and a listing of agencies and persons consulted (40 CFR 1508.9). The EA was prepared to satisfy the procedural requirements of the National Environmental Policy Act (NEPA) (P.L. 91-190, as amended) and to determine if an Environmental Impact Statement or Finding of No Significant Impact should be prepared.

## ***1.2 Purpose and Need***

The purpose of the proposed action is to provide funding to YTFP to install and operate PIT tag interrogation systems in McGarvey Creek. The installation and operation of the PIT tag interrogation systems is needed to document use of McGarvey Creek by non-natal juvenile Coho salmon and to assess the minimum distance of upstream migration by non-natal juvenile Coho salmon. Operating the PIT tag interrogation systems in conjunction with upstream and downstream migrant trapping will substantially improve the ability to document migration patterns, habitat use, distance of upstream migration, estimate the number of smolts emigrating from McGarvey Creek and survival of natal and non-natal populations of Klamath Basin Coho.

## ***1.3 Background***

The McGarvey Creek PIT Tag Interrogation System Project is proposed by the YTFP. McGarvey Creek is a tributary to the Lower Klamath River in northwestern California. Project implementation has been funded by Reclamation's Klamath Basin Restoration Program with in-kind cost share through the Yurok Tribe with cost savings resulting from a partnership with the United States Geologic Survey to reduce associated installation costs.

Coho salmon in the Klamath Basin, as part of the Southern Oregon/Northern California Coasts Evolutionary Significant Unit (SONCC ESU), were listed as threatened under the Endangered Species Act in 1997. Data regarding the fate of juvenile Coho rearing in mainstem Klamath

River habitats is limited (Soto et al. 2008; Hillemeier et al. 2010). It is thought that conditions in the Klamath River become unsuitable for juvenile Coho and that few Coho rely solely on mainstem habitats for survival.

Various partners have been working to gain knowledge about Coho use of mainstem Klamath River and non-natal tributary habitats through the Coho Ecology Study which began in 2006. Based on data collected during the Coho Ecology Study and salmonid monitoring efforts in McGarvey Creek; the pattern of juvenile Coho redistributing from mainstem habitats to tributary habitats, to overwinter appears to be a vitally important life history trait for coho of the Klamath Basin (Lestelle 2007; Wallace 2007; Soto et al. 2008; Hillemeier et al. 2010; Silloway 2010). However, there is a need to continue and expand Klamath Basin Coho studies by increasing the number of PIT Tag Interrogation systems and trapping efforts in coastal Klamath River tributaries.

The proposed action would provide additional information into the future and would continue to guide YTFP's restoration program which is currently focused on increasing the amount of high quality off-channel habitats available for Klamath Basin salmonids rearing or staging prior to ocean entry or upriver migrations. A restoration plan for McGarvey Creek is currently focusing on deconstructing floodplain road networks and creating and enhancing stream and off-channel habitats to increase salmonid production and overwinter rearing capacity.

## **Chapter 2 Proposed Action and Alternatives**

### ***2.1 No Action Alternative***

Under the No Action Alternative, Reclamation would not provide funding to YTFP for the installation and operation of PIT tag interrogation systems within McGarvey Creek. Taking “no action”, however, would not meet the purpose and need for the proposed project.

### ***2.2 Proposed Action***

The proposed action would include Reclamation providing KBRP funding to install and operate three stream-width PIT tag interrogation systems within McGarvey Creek. The project also entails trapping and inserting PIT tags into juvenile Coho salmon at various locations.

*PIT Tag Interrogation System Installation and Operation* – The installation of six 20 ft x 3 ft PIT tag antennas would be installed in three locations of McGarvey Creek (see Figure 1). Two PIT antennas would be placed within the channel approximately 10 meters apart to record directional movement of PIT tagged fish. Each antenna is 20 ft long by 3 ft high with 10 AGW, 105 strand wires wrapped inside 6 inch schedule 80 PVC pipe. Each antenna would be installed at the

stream bed level and within existing stream width. Antennas would be anchored using six anchors; an 8 ft T-Post would be placed on each end at or near the stream bank and four earth/rebar pins would be put into the stream bed holding the bottom in place.

In two locations a 3 inch diameter by 8 foot high galvanized pole would be mounted above ground approximately 100 – 200 feet from the stream bank. This pole would hold the Multiplex (Mux) unit. A small platform would be constructed above ground and above the high water mark to hold a Nema weatherproof enclosure (33in x 26.3in x 12in) with four AGM 12v sealed batteries. At or near this same site a platform would be constructed above ground and above the high water mark to hold two Sharp NT-175W solar modules. All cables (LMR 400 ultra coax wire) connecting the Mux unit to power supply and to antennas would be above ground.

All upland work activities would be above ground or through the use of existing infrastructure and would not result in ground disturbance.

Juvenile Coho Trapping and PIT Tag Insertion - The YTFP initiated a long-term assessment and monitoring of McGarvey Creek salmonid populations in 1997. YTFP began an annual out-migrant trapping project in lower McGarvey Creek in 1997 and has conducted single stream summer abundance estimates in McGarvey Creek since 2002. This long term monitoring of McGarvey Creek salmonid populations has allowed YTFP to 1) quantify juvenile emigration, 2) collect species/age composition data, 3) document population trends, and 4) describe life-history patterns of McGarvey Creek anadromous fish populations.

YTFP would utilize previously installed and operated out-migrant fish traps for the trapping and PIT tag insertion portion of the proposed project. YTFP constructed and installed pipe/frame net outmigrant and upstream fyke nets to monitor distribution and abundance of Coho salmon parr, intermediate smolt, and smolt life stages in 2008. These are existing net and trap infrastructure within the McGarvey Creek active stream channel that would be used for the proposed project. The migrant traps would be operated within the timeframes of March 2011- May 2011. YTFP would target to implant full duplex 12 millimeter PIT tags into an estimated 100-200 Coho salmon which has been permitted under the Trinity Restoration Program juvenile Coho ecology study. YTFP has extensive experience operating these types of traps in and in the proper procedures of implanting PIT tags into juvenile and adult salmonids.

# McGarvey Creek PIT Reader Installation Project



Figure 1. Map showing location of Proposed SPI Installation.

# **Chapter 3 Affected Environment and Environmental Consequences**

## ***3.1 Resources Considered***

Evaluation of the Proposed Action indicates the following resources could be affected by the project:

- Surface Water Resources
- Biological Resources
- Cultural Resources
- Indian Trust Assets
- Climate Change
- Environmental Justice

## ***3.2 Resources Not Analyzed in Detail***

Evaluation of the Proposed Action indicates that there would be little to no indirect, direct, or cumulative effects on several resources. The resources include:

- Groundwater Resources
- Air Quality
- Geology and Soils
- Hazards and Hazardous Materials
- Mineral Resources
- Traffic and Transportation
- Recreation
- Land Use
- Public Services
- Utilities and Infrastructure
- Socioeconomics
- Noise

As a result, these resources are not discussed further in this EA.

## ***3.4 Surface Water Resources***

### **3.4.1 Affected Environment**

McGarvey Creek is a small, low gradient coastal stream draining 8.9 square miles of moderately steep, forested lands in the Lower Klamath River. McGarvey Creek begins at an elevation of 5 feet at its confluence with the Klamath and extends 4.9 miles to its headwaters, located at an elevation of 600 feet. West Fork McGarvey Creek, the principle tributary in the drainage, totals 2.2 miles in length. Virtually all of McGarvey Creek is owned by Green Diamond Resource Company (GDRC) and is managed for commercial timber production. The lower section of McGarvey Creek is sinuous, flowing through a broad floodplain as it nears the Klamath. Upper McGarvey Creek is moderately steep and confined and is dominated by “B” type channels and contains natural and anthropogenic barriers to anadromous species (Rosgen 1994). The stream substrate of the drainage consists of highly embedded gravel and cobble with approximately 30% of the streambed consisting of silt or sand substrates.

McGarvey Creek’s hydrology consists of the Mainstem, West Fork and some small, unnamed tributaries. These two major forks of McGarvey are low gradient (£3%) with the exception of one 2,235 ft section of the West Fork. The McGarvey Creek watershed receives high annual rainfall. Annual rainfall in the Lower Klamath sub-basin frequently averages 100 inches per year. The Yurok Tribe Environmental Program (YTEP) began operating a stream gage upstream of the outmigrant trap site in December 2001. McGarvey stream discharge data shows that streamflow is strongly related to rainfall, especially during winter when the groundwater table is elevated. Streamflow during winter months varies with rainfall, and the highest streamflow measurement taken by YTEP in McGarvey Creek is 270 cfs, although higher estimates have been made based on gage height and a rating curve generated by existing flow measurements.

### **3.4.2 Environmental Consequences**

#### **No Action**

Under the No Action alternative, Reclamation would not release grant funding to the Yurok Tribe for the purpose of installing and operating PIT Tag interrogation systems and capturing and inserting PIT Tags into juvenile Coho. As a result, no new information regarding the life history and current movements of juvenile Coho would be obtained. However, the Yurok Tribe could still see other financial partners or fund the Proposed Action themselves, which is outside the scope of this EA.

## **Proposed Action**

Under the Proposed Action, Reclamation would release grant funding to the Yurok Tribe for the purpose of installing and operating PIT Tag interrogation systems and capturing and inserting PIT Tags into juvenile Coho.

The Proposed Action includes activities that would occur within the surface water resource of McGarvey Creek including the PIT Tag interrogation systems and fish capturing infrastructure. Any potential effects to water quality would be limited to the placement of the anchors and t-posts and human movement within the stream. Implementation of the Proposed Action could result in potential short term negative impacts to downstream water quality in the form of turbidity due to the disturbance of sediment.

There are no wetlands present within the Proposed Action area. Further, the activities associated with the proposed project are not expected to have an effect on the quantity of the surface water resource.

Therefore, no significant impacts to surface water resources would occur as a result of the Proposed Action.

## **Cumulative Impacts**

Implementation of the Proposed Action would not affect the quantity or quality of the surface water resources. Therefore, the Proposed Action would have no significant cumulative impacts on surface water resources.

## **3.5 Biological Resources**

### **3.5.1 Affected Environment**

McGarvey Creek supports populations of coho salmon, steelhead trout, cutthroat trout, chinook salmon, coastrange sculpin (*Cottus aleuticus*), prickly sculpin (*Cottus asper*), Klamath smallscale sucker (*Catostomus rimiculus*), speckled dace (*Rhynchichthys osculus*), three spine stickleback (*Gasterosteus aculeatus*), Pacific lamprey (*Lampetra tridentata*), and brook lamprey (*Lampetra lethophaga*).

Vegetation of the McGarvey Creek watershed was historically comprised of old growth conifers forest, predominantly coastal redwood (*Sequoia sempervirens*), Sitka spruce (*Picea sitchensis*) and Douglas fir (*Pseudotsuga menziesii*) with cedar (*Cedrus* spp.) and western hemlock (*Tsuga heterophylla*). Presently, riparian habitats of McGarvey Creek are dominated by red alder (*Alnus rubra*), big leaf maple (*Acer macrophyllum*), vine maple (*Acer circinatum*) tan oak (*Lithocarpus densiflora*), madrone (*Arbutus menzesii*), California laurel (*Umbellularia*

*californica*), and willow (*Salix* spp.).

A species list was downloaded from the United States Fish and Wildlife Service, Arcata Office website on January 28, 2011 pursuant to section 7(c) of the Endangered Species Act of 1973 (see Appendix 1). The list is dated January 28, 2011 and is the current listing of species that may occur within the Fern Canyon 7.5 minute USGS Quad Map.

### **3.5.2 Environmental Consequences**

#### **No Action Alternative**

Under the No Action alternative, Reclamation would not release grant funding to the Yurok Tribe for the purpose of installing and operating PIT Tag interrogation systems and capturing and inserting PIT Tags into juvenile Coho. As a result, no new information regarding the life history and current movements of juvenile Coho would be obtained. However, the Yurok Tribe could still see other financial partners or fund the Proposed Action themselves, which is outside the scope of this EA.

#### **Proposed Action Alternative**

Under the Proposed Action, Reclamation would release grant funding to the Yurok Tribe for the purpose of installing and operating PIT Tag interrogation systems and capturing and inserting PIT Tags into juvenile Coho.

The Proposed Action area is located within a McGarvey Creek, a freshwater habitat. Any impacts associated with the Proposed Action would occur within the stream. Based on an analysis of current information on known existing populations and habitat requirements, no impacts as a result of the Proposed Action would be expected for any of the terrestrial mammals, birds, and marine dependent species contained on the protected species list.

The installation of PIT Tag interrogation systems could result in a negligible impact to freshwater fishes. Any impacts associated with the interrogation systems would be limited to the immediate vicinity of the installation location and would be temporary in nature.

The capturing and tagging of Coho salmon does have the potential to cause effects to the species. The capturing and tagging aspect of the Proposed Action is being performed under the Trinity River Restoration Program (Program). As a result, Reclamation in conjunction with the Program was issued a Section 10 scientific research permit, Permit 1072 on May 4, 1998. Permit 1072 has been modified twice since that time with the current permit, Permit 1072 Mod 2 which is in effect until September 1, 2013. The Addendum to the Programmatic Biological Opinion on Endangered Species Act Section 10(a)(1)(A) Scientific Research Permit, Renewal and

Modification No. 2 of Permit 1072 which issued the current permit concluded that the action was *not likely to jeopardize* the continued existence of Southern Oregon/Northern California Coast Coho salmon.

The Section 10 permit, Permit 1072 covers all capturing and tagging performed on juvenile Coho salmon within the Trinity River Basin. The action proposed in this EA represents only a fraction of the amount of capturing and tagging of juvenile Coho salmon that occurs within the basin.

Reclamation has determined that the proposed action alternative would *not jeopardize the continued existence of Coho salmon* and would have *no effect* on other federally proposed or listed threatened and endangered species or their proposed or designated critical habitat.

The Proposed Action does not include activities that could have an effect on migratory birds protected under the Migratory Bird Treaty Act.

Therefore, based on the information included and analyzed in this EA, no significant impacts to biological resources are expected as a result of the Proposed Action.

### **Cumulative Impacts**

The Proposed Action would not result in adverse impacts to biological resources. Further, the proposed project is being performed to ultimately benefit the species. The types of studies “provide valuable information on the population status and restoration needs of salmonids and generally do not substantially impact the stability of a salmonid population in a watershed” (NMFS, 2006). Urbanization, water withdrawal, agriculture, forestry, chemical use, hatcheries, angling, and streamside restoration are all currently occurring and are expected to continue to occur in the action area. Therefore, the Proposed Action would represent a negligible amount of contribution when considering all cumulative impacts to biological resources.

## **3.7 Cultural Resources**

### **3.7.1 Affected Environment**

Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation that outlines the Federal Government’s responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 Code of Federal Regulations (CFR) Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking will have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking will have on historic properties, and consult with the State Historic Preservation Office, to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

The area of the proposed project is the aboriginal territory of the coastal Yurok. The Yurok primarily utilized the water adjacent the Klamath River and tributaries adjacent the Pacific Ocean living west of the Siskiyou Mountains. The Yurok traditionally occupied in permanent villages along the lower 45 miles of the Klamath River and California's Pacific Northwest coast south of modern day Crescent City and Trinidad Pilling (1978). Subsistence focused on marine resources which supported a relatively complex socially stratified society and political framework. Given that settlements were generally permanent, the expectation is that evidence of those settlements would appear in relative abundance at specific locations along the Klamath River. Generally, settlement areas tend to be focused at the tributary of two estuaries or where natural resource abundance is high. Ethnographically, Pilling (1978) identifies at least two permanent settlements near the mouth of McGarvey Creek. Given the dense forest cover of California's northwest coast, sparse and isolated archaeological resources are difficult to identify through surface investigations. Cultural resources identification efforts conducted for previous action along McGarvey Creek have yielded no evidence of archaeological resources.

### **3.7.2 Environmental Consequences**

#### **No Action Alternative**

Under the No Action alternative, Reclamation would not release grant funding to the Yurok Tribe for the purpose of installing and operating PIT Tag interrogation systems and capturing and inserting PIT Tags into juvenile Coho. Without the use of federal funds from Reclamation, there would be no undertaking to implement Section 106 of the NHPA as defined by Section 301(7) of the NHPA. As a result, Reclamation would not have a statutory requirement to comply with Section 106 of the NHPA. Conditions would persist along McGarvey Creek. The Yurok Tribe could choose to retain additional federal and non-federal funding sources to help implement the proposed project; however, the acquisition of financial resources from sources

other than Reclamation would not require Reclamation to comply with Section 106 or consider impacts to cultural resources. If Reclamation initiates the no action alternative, there would be no impact to cultural resources.

### **Proposed Action Alternative**

Under the Proposed Action, Reclamation would release grant funding to the Yurok Tribe for the purpose of installing and operating PIT Tag interrogation systems and capturing and inserting PIT Tags into juvenile Coho. The use of federal funds does constitute an undertaking as defined by Section 301(7) of the NHPA. Based on the analysis of project implementation, Reclamation concludes that the proposed actions involved with the preferred alternative has no potential to cause effects to historic properties pursuant to the regulations at 36 CFR Part 800.3(a)(1). The actions will involve little to no ground disturbance and will take place immediately adjacent or within the waterway of McGarvey Creek. All actions will be relatively temporary in nature. Because the proposed actions have been determined to have no potential to cause effects to historic properties, Reclamations responsibilities under Section 106 have been completed. There is no further analysis required for Section 106 compliance. Because the nature of the preferred alternative is temporary in nature with little to no ground disturbance, implementation of the preferred alternative will have no impact on cultural resources.

### **Cumulative Impacts**

The Proposed Action would not result in adverse impacts to cultural resources, and therefore, would not contribute to cumulative impacts to cultural resources.

## ***3.8 Indian Trust Assets***

### **3.8.1 Affected Environment**

Indian Trust Assets (ITAs) are legal interests in property or rights held in trust by the United States for Indian Tribes or individuals. Trust status originates from rights imparted by treaties, statutes, or executive orders. These rights are reserved for, or granted to, tribes.

Reclamation's policy is to protect ITAs from adverse impacts resulting from Reclamation programs and activities whenever possible. Types of action that could affect ITAs include an interference with the exercise of a reserved water right, degradation of water quality where there is a water right or noise near a land asset where it adversely affects uses of the reserved land.

### **3.8.2 Environmental Consequences**

#### **No Action Alternative**

Under the No Action alternative, Reclamation would not release grant funding to the Yurok Tribe for the purpose of installing and operating PIT Tag interrogation systems and capturing and inserting PIT Tags into juvenile Coho. As a result, no new information regarding the life history and current movements of juvenile Coho would be obtained. However, the Yurok Tribe could still see other financial partners or fund the Proposed Action themselves, which is outside the scope of this EA. The current land use practices would continue at the proposed project locations resulting in no adverse impacts to ITAs.

#### **Proposed Action Alternative**

Under the Proposed Action, Reclamation would release grant funding to the Yurok Tribe for the purpose of installing and operating PIT Tag interrogation systems and capturing and inserting PIT Tags into juvenile Coho. In an email dated February 4, 2011, Patricia Rivera, Reclamation Indian Trust Assets Coordinator, stated that “the proposed action does not have the potential to affect Indian Trust Assets. Therefore, no impacts to ITAs would result from implementation of the Proposed Action Alternative.

#### **Cumulative Impacts**

The Proposed Action would not result in adverse impacts to ITAs and, therefore, would not contribute to cumulative impacts to ITAs.

## ***3.9 Climate Change***

### **3.9.1 Affected Environment**

The United Nations Intergovernmental Panel on Climate Change predicts that changes in the Earth’s climate will continue through the 21st century and that the rate of change may increase significantly in the future because of human activity. Climate change may be changing faster than had been anticipated as little as three years ago (GCCIG 2008). Oregon’s water resources have the potential to be significantly changed as a result of climate change (GCCIG 2008). Snow pack reductions are already being observed and spring runoff is coming earlier, leaving lower flows in summer months which affect agriculture, among other resources (GCCIG 2008).

### **3.9.2 Environmental Consequences**

#### **No Action Alternative**

Under the No Action alternative, Reclamation would not release grant funding to the Yurok Tribe for the purpose of installing and operating PIT Tag interrogation systems and capturing and inserting PIT Tags into juvenile Coho. As a result, no new information regarding the life history and current movements of juvenile Coho would be obtained. However, the Yurok Tribe could still see other financial partners or fund the Proposed Action themselves, which is outside the scope of this EA. As a result, there would be no impacts to climate change.

### **Proposed Action Alternative**

Under the Proposed Action, Reclamation would release grant funding to the Yurok Tribe for the purpose of installing and operating PIT Tag interrogation systems and capturing and inserting PIT Tags into juvenile Coho. The Proposed Action is extremely limited in scope and any potential to contribute to climate change would be negligible. As a result, the Proposed Action would not cause any significant change on the composition of the atmosphere and therefore would not result in adverse impacts to climate change.

### **Cumulative Impacts**

The Proposed Action would not result in adverse impacts to climate change and, therefore, would not contribute to cumulative impacts to climate change.

## ***3.10 Environmental Justice***

### **3.10.1 Affected Environment**

Pursuant to Executive Order 12898 (dated February 11, 1994), Reclamation is required to consider any potential effects to minority or low-income populations resulting from its actions.

### **3.10.2 Environmental Consequences**

#### **No Action Alternative**

Under the No Action alternative, Reclamation would not release grant funding to the Yurok Tribe for the purpose of installing and operating PIT Tag interrogation systems and capturing and inserting PIT Tags into juvenile Coho. As a result, no new information regarding the life history and current movements of juvenile Coho would be obtained. However, the Yurok Tribe could still see other financial partners or fund the Proposed Action themselves, which is outside the scope of this EA. As a result, the No Action alternative would not result in a disproportionate effect upon those populations.

### **Proposed Action Alternative**

Under the Proposed Action, Reclamation would release grant funding to the Yurok Tribe for the purpose of installing and operating PIT Tag interrogation systems and capturing and inserting PIT Tags into juvenile Coho. The proposed action would not result in a disproportionately impact economically disadvantaged or minority populations.

### **Cumulative Impacts**

The Proposed Action would not result in adverse impacts to economically disadvantaged or minority populations and, therefore, would not contribute to cumulative impacts to those groups.

### ***3.11 Summary of Environmental Effects***

The environmental effects of the Proposed Action Alternative are summarized in the Table below.

<b>Summary of Environmental Effects PIT Tag Reader Installation and Capture and PIT Tag Insertion in Juvenile Coho Salmon</b>	
<b>Resource/Issue</b>	<b>Potential Effects</b>
Surface Water Resources	No significant effect. Temporary and limited in nature.
Biological Resources	No effect to upland resources. Not likely to jeopardize continued existence of Coho salmon.
Climate Change	No effect.
Cultural Resources	No effect.
Indian Trust Assets	No effect.
Environmental Justice	No effect.

## **Chapter 4 Consultation and Coordination**

### ***4.1 Federal Laws***

The following federal laws were considered during the preparation of this EA and the evaluation of the potential impacts from the Proposed Action.

#### **4.1.1 Endangered Species Act (16 USC. 1521 et seq.)**

Section 7 of the Endangered Species Act (ESA) requires Federal agencies to ensure that all federally associated activities within the United States do not jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of the critical habitat of these species. When a proposed action is likely to impact listed species, action agencies must consult with the U.S. Fish and Wildlife Service, which maintains current lists of species that have been designated as threatened or endangered, to determine the potential impacts a project may have on protected species.

#### **4.1.2 Migratory Bird Treaty Act (16 USC § 703 ET SEQ.)**

The Migratory Bird Treaty Act implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the Act, the Secretary of the Interior (Secretary) may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg would be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns.

### **4.2 Public Involvement**

The Final EA and FONSI were posted on the Reclamation website with a press release advising the public of the decision.

## **Chapter 5 List of Preparers and Reviewers**

Kristen Hiatt, Natural Resources Specialist, Klamath Basin Area Office

Chuck Korson, Fish Passage Coordinator, Klamath Basin Area Office

Adam Nickels, Archaeologist, Mid-Pacific Region

Monica Hiner, Fish Biologist, Yurok Tribal Fisheries Program

## References

- Hillemeier D., T. Soto, A. Corum, L. Lestelle., and others. 2010. The role of the Klamath River mainstem corridor in the life history and performance of Juvenile Coho Salmon (*Oncorhynchus kisutch*) – Year 2 report May 2007-May 2008. DRAFT report to the U.S. Bureau of Reclamation, Klamath Area Office, Klamath Falls, Oregon.
- Lestelle, L. 2007. Coho salmon (*Oncorhynchus kisutch*) life history patterns in the Pacific Northwest and California. Final report prepared for the U.S. Bureau of Reclamation, Klamath Area Office, Klamath Falls, Oregon.
- Philling, Arnold R. 1978 *Yurok*. Published in Handbook of North American Indians, California Volume 8. Published by the Smithsonian Institute, Washington D.C. Edited by Robert F. Heizer.
- Silloway, S. 2010. Del Norte 101 Klamath Grade Raise wetland project surveys in Del Norte County – DRAFT. Yurok Tribal Fisheries Program, Klamath, California.
- Soto, T., A. Corum, H. Voight, D. Hillemeier, and L. Lastelle. 2008. The role of the Klamath River mainstem corridor in the life history and performance of Juvenile Coho Salmon (*Oncorhynchus kisutch*). Phase I report submitted to U.S. Bureau of Reclamation, Klamath Area Office, Klamath Falls, Oregon.
- The Governor's Climate Change Integration Group (GCCIG). 2008. Final Report to the Governor – A Framework for Addressing Rapid Climate Change. State of Oregon, January 2008. Access at:  
<http://www.oregon.gov/ENERGY/GBLWRM/docs/CCIGReport08Web.pdf?ga=t>
- Wallace, M. 2007. Personal Communication. California Department of Fish and Game, Arcata, California.

# Appendix 1

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## Listed/Proposed Threatened and Endangered Species for the FERN CANYON Quad (Candidates Included)

January 28, 2011

Document number: 414920913-122547

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**KEY:**

(PE) Proposed Endangered Proposed in the Federal Register as being in danger of extinction

(PT) Proposed Threatened Proposed as likely to become endangered within the foreseeable future

(E) Endangered Listed in the Federal Register as being in danger of extinction

(T) Threatened Listed as likely to become endangered within the foreseeable future

(C) Candidate Candidate which may become a proposed species Habitat Y = Designated, P = Proposed, N = None Designated

\* Denotes a species Listed by the National Marine Fisheries Service

Type	Scientific Name	Common Name	Category	Critical Habitat
<b>Invertebrates</b>				
*	<i>Halotis cracherodii</i>	black abalone	E	N
<b>Fish</b>				
*	<i>Acipenser medirostris</i>	green sturgeon	T	Y
	<i>Eucyclogobius newberryi</i>	tidewater goby	E	Y
*	<i>Oncorhynchus kisutch</i>	S. OR/N. CA coho salmon	T	Y
*	<i>Oncorhynchus tshawytscha</i>	CA coastal chinook salmon	T	Y
<b>Birds</b>				
	<i>Brachyramphus marmoratus</i>	marbled murrelet	T	Y
	<i>Charadrius alexandrinus nivosus</i>	western snowy plover	T	Y
	<i>Coccyzus americanus</i>	Western yellow- billed cuckoo	C	N
	<i>Phoebastria albatrus</i>	short-tailed albatross	E	N
	<i>Strix occidentalis caurina</i>	northern spotted owl	T	Y
	<i>Synthliboramphus hypoleucus</i>	Xantus's murrelet	C	N
<b>Mammals</b>				
*	<i>Balaenoptera borealis</i>	sei whale	E	N
*	<i>Balaenoptera musculus</i>	blue whale	E	N
*	<i>Balaenoptera physalus</i>	fin whale	E	N
	<i>Martes pennanti</i>	fisher, West Coast DPS	C	N
*	<i>Megaptera novaengliae</i>	humpback whale	E	N
*	<i>Physeter macrocephalus</i>	sperm whale	E	N

## Hiatt, Kristen L

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**From:** Korson, Charles S (Chuck)  
**Sent:** Friday, October 08, 2010 1:10 PM  
**To:** Hiatt, Kristen L  
**Subject:** FW: Bureau of Reclamation Grant to Yurok Tribe for Installation of PIT Tag systems for Coho  
**Attachments:** Permit 1072 M 2 tiering opinion 5.1.06.pdf; 03242009\_Email Request to add investigators to Permit 1072 M!.pdf; 03252009\_List of Investigators for Permit 1072 M2.pdf; 05062010\_List of Investigators for Permit 1072M2.pdf

Hopefully this gives you everything you need for Section 7 compliance. Chuck

---

**From:** Diane Ashton [<mailto:Diane.Ashton@noaa.gov>]  
**Sent:** Friday, October 08, 2010 1:12 PM  
**To:** Korson, Charles S (Chuck)  
**Subject:** RE: Bureau of Reclamation Grant to Yurok Tribe for Installation of PIT Tag systems for Coho

Hi Chuck, Please find attached the following: (1) section 7 biological opinion for section 10(a)(1)(A) permit 1072 M2; (2) 3/24/09 request to add Yurok tribal fisheries staff to the list of investigators; (3) NMFS 3/25/09 letter updating list of investigators ; and (4) NMFS 5/6/10 letter updating list of investigators. I know Brandt will want to have Monica will be added to the 2010 list of investigators since she was recently re-hired by the Yurok tribe. I hope this information is helpful, and will satisfy NEPA.

Diane

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**From:** Korson, Charles S (Chuck) [<mailto:CKorson@usbr.gov>]  
**Sent:** Friday, October 08, 2010 11:38 AM  
**To:** [diane.ashton@noaa.gov](mailto:diane.ashton@noaa.gov)  
**Cc:** Hiatt, Kristen L  
**Subject:** Bureau of Reclamation Grant to Yurok Tribe for Installation of PIT Tag systems for Coho

Diane: Thanks very much for taking the time to discuss the ESA Section 10 and 7 permitting aspects for this Fiscal Year 2010 grant project (Grant NO. R10AP20085) the Klamath Basin Area Office(KBAO) has recently funded. As discussed, I would appreciate you sending me the ESA Section 7 Biological Opinion which National Marine Fisheries Service has issued on May 11, 2006 for the Section 10(a)(1) take permit 1072 which was issued to the Trinity River Restoration Program (TRRP) and which you also indicated will cover the expected take under this grant project funded by KBAO. I also understand that you are going to verify that the Yurok Tribe researchers Scott Silloway and Monica Hiner have been added to the permit to conduct the 2010 research work which will occur in McGarvey Creek under our grant.

I appreciate your help and cooperation which will allow Reclamation KBAO to complete our internal National Environmental Policy Act, ESA Section 7, and National Historic Preservation Act compliance responsibilities. As you requested, I have attached a bit more information about our grant project with the Yurok Tribe.

Let me know if you have any further questions.

Chuck Korson  
Fish Passage and Restoration Program Manager  
Bureau of Reclamation, Klamath Basin Area Office  
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Klamath Falls, OR 97603  
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UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Region  
501 West Ocean Boulevard, Suite 4200  
Long Beach, California 90802-4213

MAY 11 2006

**MEMORANDUM FOR:** Renewal and Modification Number 2 of Permit 1072  
File 151401SWR2006AR00044:SL

**FROM:** ~~for~~ Rodney R. McInnis  
Regional Administrator

**SUBJECT:** Addendum to the Programmatic Biological Opinion on  
Endangered Species Act Section 10(a)(1)(A) Scientific Research  
Permit, Renewal and Modification No. 2 of Permit 1072

## I. INTRODUCTION

Section 10(a)(1)(A) of the Endangered Species Act of 1973, as amended (ESA) (16 U.S.C. 1536 *et seq.*), provides NOAA's National Marine Fisheries Service (NMFS) with authority to grant scientific research exemptions to the ESA's section 9 taking prohibitions (see regulations at 50 CFR § 222.301 through 222.308, and 50 CFR § 224.101 through 224.102). Section 10(a)(1)(A) scientific research or enhancement permits may be issued to Federal or non-Federal entities conducting research or enhancement activities that involve intentional take of ESA-listed species. Any permitted research or enhancement activities must: (1) be applied for in good faith; (2) if granted and exercised, not operate to the disadvantage of the threatened or endangered species; and (3) be consistent with the purposes and policy set forth in section 2 of the ESA [50 CFR § 222.303(f)]. NMFS prepared this addendum to the Programmatic Biological Opinion on the Issuance of section 10(a)(1)(A) Scientific Research Permits (NMFS 2002), hereafter referred to as Programmatic B.O., in compliance with section 7(a)(2) of the ESA.

## II. CONSULTATION HISTORY

The United States Department of Interior - Bureau of Reclamation (BOR), in conjunction with the Trinity River Restoration Program (TRRP), was issued Permit 1072 on May 4, 1998. That Permit expired on June 30, 2003.

On October 22, 2002, NMFS signed into the record the Programmatic B.O. on the issuance of scientific research permits under section 10(a)(1)(A) of the ESA (NMFS 2002). That biological opinion analyzed the issuance of ESA section 10(a)(1)(A) scientific research permits for take of salmon and steelhead from the following Evolutionarily Significant Units (ESU), all listed as threatened under the ESA: Central California Coast (CCC) coho salmon (*Oncorhynchus kisutch*), Southern Oregon/Northern California Coast (SONCC) coho salmon, California Coastal (CC) Chinook salmon (*O. tshawytscha*), CCC steelhead (*O. mykiss*), and Northern California



(NC) steelhead. NMFS concluded that issuing scientific research permits on the activities discussed in that consultation are not likely to jeopardize the continued existence of CCC coho salmon, SONCC coho salmon, CC Chinook salmon, CCC steelhead, or NC steelhead.

On February 13, 2004, NMFS received a research permit request from TRRP to renew and modify Permit 1072. TRRP proposed to continue research studies on outmigrating juvenile SONCC coho salmon on the Trinity River, California. This first Renewal and Modification of Permit 1072 allowed TRRP to continue to monitor the total annual abundance of different life stages and species of juvenile anadromous salmonids outmigrating from the Trinity River basin. The modification of Permit 1072 increased the number of SONCC coho salmon take from the original permit by 1,150 individuals, in order to accommodate the increase in abundance of SONCC coho salmon in the Trinity River. NMFS issued this permit on May 10, 2005.

On January 24, 2006, NMFS received a second request to modify permit 1072. The TRRP research is intended to compare juvenile coho salmon production and the health of juvenile coho salmon in both restored and unmodified reaches of the mainstem and tributaries to the Trinity River. The TRRP plans to use coho salmon densities, habitat use, growth, and site fidelity to determine effects of specific restoration actions on coho salmon in freshwater.

#### **A. New Information since Issuance of the 2002 Programmatic Biological Opinion**

On June 28, 2005, NMFS published a final rule in the *Federal Register* on the Final Listing Determinations for 16 ESUs of West Coast Salmon, and Final 4(d) Protective Regulations for Threatened Salmonid ESUs (70 FR 37160). This final rule changed the ESA-listing status of one salmon ESU in California, the CCC coho salmon ESU, from threatened to endangered. In addition, the final rule includes the listing of salmon and steelhead hatchery populations. The final listing determination for all steelhead ESUs, which addressed listing of resident *Oncorhynchus mykiss* present below natural or long-standing artificial barriers, was provided a 6-month extension.

On January 5, 2006, NMFS published a final listing determination in the *Federal Register* for 10 West Coast steelhead ESUs (71 FR 834). The new listing determination concluded that all 10 West Coast steelhead populations will be newly classified as Distinct Population Segments (DPS), rather than as ESUs. Use of the DPS policy for steelhead listed in California has led to the change of all steelhead ESUs to DPSs. However, the listed population of steelhead for each DPS remains unchanged from that previously listed as an ESU. For steelhead covered under this consultation, NC and CCC steelhead DPSs remain listed as threatened.

The biological status of these salmon ESUs and steelhead DPSs are similar to that described in the 2002 Programmatic B.O., and the passing of 4 years has not had an impact on the analysis completed for exempting take related to scientific research and monitoring projects in California. A recent status update (Good *et al.* 2005) does include limited new information for all listed salmonid ESUs in California. No information exists within this review to suggest new risk factors or ESU/DPS-wide amelioration of risk factors noted in previous status reviews, except for recent changes in ocean conditions. Recent favorable ocean conditions have contributed to

apparent increases in abundance and distribution of anadromous salmonids. However, it is unclear whether this trend will persist (Good *et al.* 2005).

Critical habitat for SONCC and CCC coho salmon ESU was designated on May 5, 1999 (64 FR 24049). A final rule designating critical habitat for steelhead DPSs and Chinook salmon ESUs in California was published on September 2, 2005 (70 FR 52488).

### **III. DESCRIPTION OF THE PROPOSED ACTION**

NMFS proposes to renew and modify Permit 1072 for the second time (hereafter referred to as Permit 1072 Mod. 2), pursuant to section 10(a)(1)(A), which authorizes NMFS to exempt take for the purpose of scientific research. Permit 1072 Mod. 2 would be in effect through September 1, 2013, and would be subject to the limitations of the ESA and the regulations in 50 CFR § 222, 223, and 224, unless it is further modified, suspended, or revoked.

#### **A. Project Description**

The TRRP proposes to conduct scientific research on juvenile salmonids, including listed SONCC coho salmon in the Trinity River. The TRRP would establish approximately eight study sites, four in the mainstem and four in tributaries to the Trinity River. Deadwood Creek and Rush Creek would likely be two of the tributaries selected. Coho salmon would be captured and recaptured at the study sites. Trapping sessions would occur approximately once per month throughout the year. The following is a brief description of the study.

The TRRP plans to use coho salmon densities, site fidelity, habitat use, and growth to determine the effects of specific freshwater habitat and hatchery restoration actions on coho salmon.

The TRRP would determine coho salmon densities at restored and un-modified sites by snorkeling. Population estimates would be made at sites where conditions allow such estimates to be made.

The TRRP would determine site fidelity for coho salmon, which have been tagged with passive integrated transponders (PIT), by repeated sampling of study sites.

The TRRP would use radio tracking and snorkeling to determine micro habitat use over time. The TRRP would then sample invertebrate drift at those locations where coho salmon are observed. The TRRP would then use bioenergetic modeling to estimate the potential energy balance (*i.e.*, compare food consumed vs. energy expended to obtain the food) of the fish, and compare the suitability of restored and unmodified habitats.

The TRRP would determine growth rates (expressed as changes in grams/day, mm/day, and condition factor) of individual PIT-tagged fish through repeated sampling of study sites over time and comparing individual fish sizes at each capture occurrence. A comparison of growth

and condition factors between restored and unmodified sites could infer which habitats are better for coho salmon growth.

This project would be coordinated with ongoing rotary screw trapping operations in the Trinity River. Screw trap operators would be provided with PIT tag detectors to provide another sampling point to identify fish PIT-tagged during this project.

The TRRP intend to utilize both naturally-spawned and hatchery-produced coho salmon juveniles in this research. Naturally-spawned coho salmon would be used to test whether the use of hatchery surrogates in this research accurately reflects the behavior of naturally-spawned coho salmon. The effect of hatchery operations on naturally-spawned coho salmon is a high priority information need in the Trinity River and this work has the potential to contribute valuable information on this topic.

## **B. Measures to Reduce the Impacts of Permit 1072 Mod. 2**

Implementation of Permit 1072 Mod. 2 will take SONCC coho salmon and result in adverse impacts to a number of these fish. The following are measures that will be implemented to minimize any adverse impacts to SONCC coho salmon arising from the proposed research activities.

NMFS has reviewed the credentials of the principal investigators for the proposed research. All investigators are well qualified and have provided evidence of experience working with salmonids.

The principal investigators operating under Permit 1072 Mod. 2 will ensure that all persons operating under this permit will follow the conditions therein.

NMFS will review the annual reports to ensure that TRRP is operating satisfactorily in accordance with Permit 1072 Mod. 2. NMFS will review the actual annual take of SONCC coho salmon associated with the proposed research activities (as provided in annual reports or by other means). The amount of exempted take may be reduced if population data indicate the take associated with Permit 1072 Mod. 2, or cumulative take exemptions for the SONCC coho salmon ESU, exceeds that which NMFS thinks is acceptable.

All personnel operating under Permit 1072 Mod. 2 will follow the NMFS (2000) electrofishing guidelines.

All persons operating under Permit 1072 Mod. 2 will be properly trained and use properly maintained state-of-the-art equipment.

All fish captured and detained for more than 1 hour will be held in live-cars, in stream, allowing for water flow-through with ambient oxygen and water temperature levels.

### **C. Description of the Action Area**

All areas proposed within this project are located within the Trinity River basin. Specific outmigrant trap locations are as follows: the mainstem Trinity River near Junction City, the mainstem Trinity River near the North Fork Trinity River, the mainstem Trinity River near the community of Willow Creek, Horse Linto Creek, Willow Creek, Hayfork Creek and the South Fork Trinity River near Hyampom. Restored and unmodified sites have not yet been determined.

### **D. Requested Amount of Take**

TRRP is currently exempted annual take of up to 4,800 juvenile SONCC coho salmon individuals to be captured, weighed, measured, and released, including a take of up to 3.25 percent (156 juvenile SONCC coho salmon individuals) as indirect mortality resulting from the capture, measuring, and release process. Table 1, below, provides the maximum annual take at each location that is currently authorized under the Renewal and Modification of Permit 1072.

In addition to the above-authorized take, TRRP is requesting take of up to 4,000 naturally-produced juvenile coho salmon in the Trinity River to be captured, weighed, measured, and released. TRRP is requesting to capture, PIT tag, weigh, measure, and release up to 1,000 naturally-produced coho salmon juveniles and to release up to 10,000 PIT-tagged hatchery-produced juvenile coho salmon. TRRP is requesting to tag up to 1,000 juvenile coho salmon < 55 mm, which are too small to PIT tag, with visual implant (VI) elastomer injections into clear tissues of the fish. TRRP is requesting a lethal take (indirect mortality) of 100 naturally-spawned individual juvenile coho salmon, based on the range of previously observed mortality (0 – 5 percent) associated with capturing, handling, tagging and releasing coho salmon. Table 2 shows the additional (Permit 1072 Mod. 2) amount of take requested by TRRP.

## **IV. STATUS OF THE SPECIES AND CRITICAL HABITAT**

Research activities associated with this project would occur in the Upper and Lower Trinity Rivers, which provide habitat for SONCC coho salmon. The listing status, status of the species in the entire ESU, life history, and biological requirements of SONCC coho salmon are discussed in the Programmatic B.O. (NMFS 2002).

The research activities described in this biological opinion do not result in any changes or effects to salmonid habitat, including designated critical habitat for SONCC coho salmon. Therefore, critical habitat would not be affected by activities authorized under Permit 1072 Mod. 2 and is not considered further in this biological opinion.

Table 1. Trinity River basin downstream migrant (DSM) trapping annual take and unintentional mortality exempted by Renewal and Modification Number 1 of Permit 1072.

Number of Juvenile SONCC Coho Salmon	Take Activity Category	Location	Dates	Details
750	Capture, measure, weigh, release	Junction City	February- November	Hoopa Tribe- Based on trapping history and professional judgment
24	Indirect mortality	Junction City	February- November	Hoopa Tribe -Based on 3.25 percent indirect mortality rate
1000	Capture, measure, weigh, release	Near North Fork	February - November	Hoopa Tribe- Based on 1 year trapping history at this site
32	Indirect mortality	Near North Fork	February- November	Hoopa Tribe- Based on 3.25 percent indirect mortality
1500	Capture, measure, weigh, release	Near Willow Creek	March- November	Yurok Tribe- Based on 5 years of trapping history at this site.
48	Indirect mortality	Near Willow Creek	March- November	Yurok Tribe- Based on 3.25 percent indirect mortality rate
300	Capture, measure, weigh, release	In Willow Creek	April-July	Lower Trinity Ranger District (RD) - Based on trapping history since 1994.
10	Indirect mortality	In Willow Creek	April-July	Lower Trinity RD- Based on 3.25 percent indirect mortality rate
300	Capture, measure, weigh, release	In Horse Linto Creek	April-July	Lower Trinity RD- Based on trapping history since 1994.
10	Indirect mortality	In Horse Linto Creek	April-July	Lower Trinity RD- Based on 3.25 percent indirect mortality rate
300	Capture, measure, weigh, release	Hayfork Creek	March-July	Hayfork RD- Estimate based from Willow Creek trapping history
10	Indirect mortality	Hayfork Creek	March-July	Hayfork RD- Based on 3.25 percent indirect mortality rate
500	Capture, measure, weigh, release	South Fork Trinity	March-July	Hayfork RD- Based on professional judgment
16	Indirect mortality	South Fork Trinity	March-July	Hayfork RD- Based on 3.25 percent indirect mortality rate

Table 2. Additional take requested by TRRP in Renewal and Modification Number 2 of Permit 1072.

Number of juvenile SONCC Coho Salmon	Origin	Take Activity Category	5 percent indirect mortality	Date(s)	Details
10,000	hatchery	Capture, PIT tag, measure, weigh, release	500	July through May	Fish obtained directly from Trinity Hatchery, tagged, and released into study sites for monitoring habitat use
4,000	wild	Capture, measure, weigh, release	200	July through May	Fish captured and recaptured at study sites
1,000	wild	Capture, PIT tag, measure, weigh, release	50	July through May	Fish captured and PIT tagged at study sites
1,000	wild	Capture, VI tag, measure, weigh, release	50	July through May	Coho too small to PIT tag marked with VI tags
50	wild	Capture, measure, weigh, radio tag, release	2.5	October through May	Fish captured, PIT tagged, and tracked at study sites.
50	hatchery	Capture, measure, weigh, radio tag, release	2.5	October through May	Obtained at Hatchery, PIT tagged, and tracked at study sites.

#### A. SONCC Coho Salmon in the Action Area

Adult coho salmon counts at the Trinity River weir are used to estimate the total number of adult coho salmon found in the Trinity River because the weirs are relatively low in the system below much of the spawning habitat. The majority of the fish trapped are of hatchery origin, and 100 percent marking of hatchery coho salmon has only recently occurred, so estimates of naturally-produced coho salmon are only available since the 1997 return year [California Department of Fish and Game (CDFG) 2000]. CDFG (2000) estimated 198, 1001, and 491 naturally-produced adult coho salmon for the 1997-1998, 1998-1999, and 1999-2000 seasons, respectively. For the 2003-2004 trapping season, 86 percent (215/250) of the coho salmon adults CDFG trapped were from the Trinity River Hatchery (CDFG 2005).

## **V. ENVIRONMENTAL BASELINE**

The environmental baseline is an analysis of the effects of past and ongoing human and natural factors leading to the current status of the species, its habitat, and the ecosystem in the action area. The environmental baseline includes the past and present impacts of all Federal, state, or private actions and other human activities in the action area (50 CFR § 402.02). The TRRP is currently covered for take of up to 4,800 juvenile coho salmon with a maximum mortality rate of 3.25 percent (156 juvenile coho salmon mortalities) associated with its trapping program within the Trinity River. A detailed discussion of the factors affecting SONCC coho salmon throughout its ESU is provided in the Programmatic B.O. (NMFS 2002).

### **A. Factors Affecting SONCC Coho Salmon in the Action Area**

In California, including the Klamath River basin, dams and water diversions have substantially reduced streamflow during winter and spring, modified downstream flow patterns, and blocked access to spawning areas. The mainstem Klamath River and its largest tributary, the Trinity River, both have dams that significantly reduce the natural production of coho salmon. The Iron Gate Hatchery, located on the mainstem Klamath River, and the Trinity River Hatchery, located on the mainstem Trinity River, were constructed as mitigation for the adverse impacts of the dams on native fish in the Klamath and Trinity River basins. Wainwright and Waples (1998) found that the effects of artificial propagation are among the most difficult and controversial to incorporate into risk analysis during ESA status review. In the California portion of the SONCC coho salmon ESU, the Trinity River Hatchery, in the Klamath River basin, continues to release high numbers of coho salmon juveniles and is thought to create significant straying to natural populations (NMFS 2003). If straying of hatchery populations occurs over a wide geographic range, then a reduction in genetic variation among populations may occur. Also, genetic changes that occur in hatchery populations will be transferred through straying hatchery fish to natural populations, causing reduced fitness and productivity of the natural population. Straying by hatchery fish could pose a variety of ecological hazards to natural populations in other streams. These include competition for redd sites and redd superimposition, reduced productivity of natural fish breeding with hatchery fish, and disease transmission (CDFG 2001). These ecological interactions can also have genetic consequences because they alter the selective pressure operating on naturally-produced fish (Waples 1991). Other factors affecting SONCC coho salmon in the Trinity River can be found in the Programmatic B.O. (NMFS 2002).

## **VI. EFFECTS OF THE PROPOSED ACTION**

The purpose of this section is to describe effects to SONCC coho salmon associated with NMFS Permit 1072 Mod. 2.

## A. Amount of Take and Project Specific Adverse Effects

TRRP is requesting non-lethal take of SONCC coho salmon, with a maximum unintentional mortality of 5.0 percent of captured fish, associated with its program. The majority of listed salmonids captured by traps, nets, and electrofishing will be young of the year (YOY), and salmonids generally experience a high mortality rate at this life stage. Survival of juvenile salmonids from fry to smolt is generally 1 to 2 percent (Sandercock 1991). Survival of smolts to adult return averages around four percent, typically ranging between one and eight percent (Sandercock 1991, Smith and Ward 2000, Cramer *et al.* 2003). Using the above estimate for survival, for every 10,000 YOY, 100 to 200 survive to smolts, and of those, 4 to 16 return as adults. However, for every 10,000 out-migrating smolts leaving a river basin, approximately 400 to 800 return as adults. Therefore, a 5.0 percent mortality rate at the smolt stage has a greater impact on the number of returning adults than the same mortality rate at the YOY stage.

NMFS does not expect the capture of SONCC coho salmon, associated with Permit 1072 Mod. 2, to appreciably reduce the number of returning adults. Most unintentional mortalities would likely be YOY because a larger number of YOY are present and would be trapped. The TRRP is requesting take of up to 10,050 hatchery coho salmon juveniles and up to 6,050 naturally-produced juvenile coho salmon with a maximum mortality rate of 5.0 percent (805 juvenile coho salmon mortalities) associated with its habitat modification study. If the full extent of unintentional mortality of SONCC coho salmon occurred, the outmigrant population from the Trinity River would be reduced by 805 juvenile SONCC coho salmon juveniles. Based on previous trapping data, approximately 75 percent of these fish would be YOY. This equates to 604 YOY and 201 smolting coho salmon. Approximately 12 of the 604 juveniles would survive to become smolts ( $604 \times 0.02 = 12.08$  or 12), and of the total estimated number of smolts ( $12 + 201 = 213$ ), approximately 9 are estimated to return as adults ( $213 \times 0.04 = 8.52$  or 9 adults). In 2003, 11,859 coho salmon were recovered at Trinity River Hatchery (TRH) and 11,169 (94.2 percent) of these fish were observed to have right maxillary clips. A right maxillary clip is the mark used to indicate a fish originated from TRH. The remaining 679 adults (5.7 percent) that returned to the TRH had no maxillary clip. These fish are believed to be a combination of hatchery-bred coho salmon, which received no or poor clips prior to release from the hatchery, and naturally-produced fish, which inadvertently entered the hatchery (CDFG 2005).

Considering the size of adult coho salmon escapement within the entire Trinity River basin, the loss of 4 potential adult SONCC coho salmon, which could have returned to spawn, is small. Trap efficiencies for the last few years have ranged from 2-5 percent (Petros 2006). As a result, most migrating coho salmon juveniles (~96 percent) in the Trinity River are unaffected by the traps. If the entire amount of take is realized, then the number of fish in the basin that are not sampled would be very large compared to the number of coho salmon juveniles killed. Furthermore, the majority of coho salmon juveniles that would be handled, which could incur incidental mortality, are hatchery fish.

Of the naturally-produced coho salmon that would be handled for the habitat modification study (6,050), a maximum of approximately 303 could die (227 YOY and 76 smolts). Based on the same assumption of survival rates from Sandercock (1991), this amount of mortality would mean

( $227 \times 0.02 = 4.54$  or 5 smolts) approximately 5 naturally-produced coho salmon YOY would become smolts. Of the ( $5 + 76 = 81$  smolts) 81 smolts, approximately ( $81 \times 0.04 = 3.24$  or 3) 3 smolts would return as adults. Although limited numbers of naturally-produced coho salmon have been returning to the Trinity River, NMFS believes it is highly unlikely that the loss of these naturally-produced returning adults would come from the same tributary of the Trinity River, thereby concentrating the effect of the take on a single sub-population. Nor does NMFS think that the loss of 3 naturally-produced adults would diminish the potential for survival and recovery of the naturally-produced coho salmon within the Trinity River as a whole.

Permit 1072 Mod. 2 is unlikely to appreciably reduce the likelihood of survival and recovery of SONCC coho salmon at the ESU scale because: (1) the potential impacts to SONCC coho salmon are expected to be confined to specific sampling sites during certain time periods in the action area, leaving most juveniles and all adults directly unaffected; (2) intentional lethal take is not proposed and precautions will be required to minimize mortality of captured fish; and (3) the sampling methods employed are highly inefficient (*i.e.*, low percent of fish captured) and, as a result, a large majority of the population would be unaffected by DSM trapping activities.

## **B. Beneficial Effects of Issuing Permit 1072 Modification 2**

There must be an obvious benefit to the species in order to consider exempting the intentional take of ESA-listed species and potentially removing those individuals from the population. The use of ESA-listed species for scientific research is consistent with the purpose of the ESA when the research facilitates recovery of an ESA-listed species. The status reviews for coho salmon note the lack of data available for making satisfactory management decisions (Weitkamp *et al.* 1995, NMFS 2001). The lack of reliable and widespread abundance and trend data is in itself a risk factor for salmonids. Access to useful scientific information is essential to implement the ESA adequately. Scientific information is necessary to reduce uncertainty in determining whether a consultation is to be conducted formally or informally; when determining whether a jeopardy threshold is met; or when developing terms and conditions, reasonable and prudent measures, and reasonable and prudent alternatives. Also, monitoring activities can help NMFS determine if protective actions are assisting in the recovery of salmonids. This project is continuing to collect data that can be compared to several years of previous data to show general population structure and populations trends. Furthermore, the new study is designed to determine the effects of specific freshwater habitat and hatchery restoration actions on coho salmon. This could allow managers to design future projects that maximize natural coho salmon production.

In spite of unintentional injuries and mortalities, traps, seines and electro-fishers provide valuable information on the population status and restoration needs of salmonids while generally not substantially impacting the stability of a salmonid population in a watershed. This is because only a small portion of fish in the population are affected (~4 percent of the population is captured), mortality rates are low (usually less than 2 percent), and juvenile salmonids generally experience a high natural mortality rate before reaching the outmigrant stage (Sandercock 1991).

Permit 1072 Mod. 2 is consistent with the prioritized data needs developed by NMFS. Information on abundance and population structure are the highest priority data needs for recovery planning and the research and monitoring projects proposed by TRRP address these data needs. Having data available to resource managers reduces uncertainty in management decisions.

## **VII. CUMULATIVE EFFECTS**

Cumulative effects are defined in 50 CFR § 402.02 as those effects of future State or private activities, not involving Federal activities that are reasonably certain to occur within the action area of the Federal action subject to consultation. For the purpose of this analysis, the action area that is the subject of this biological opinion are tributaries to the Trinity River and the mainstem of the Trinity River. Future Federal actions, including the ongoing operation of dams, hatcheries, fisheries, water withdrawals, and land management activities will be reviewed through separate section 7 consultation processes and not considered here. Non-Federal actions that require authorization under section 10 of the ESA, and that are not included within the scope of this consultation, will be evaluated in separate section 7 consultations and not considered here.

A generalized summary of potential cumulative effects that may affect SONCC coho salmon within the action area is found in the Programmatic B.O. Urbanization, water withdrawal, agriculture, forestry, chemical use, hatcheries, angling, and streamside restoration are all currently occurring and are expected to continue in the action area.

## **VIII. CONCLUSION**

After reviewing the best available scientific and commercial data regarding the current status of SONCC coho salmon, the environmental baseline for the action area, the effects of the proposed issuance of Permit 1072 Mod. 2, and cumulative effects, it is the biological opinion of NMFS that Permit 1072 Mod. 2, as proposed, is not likely to jeopardize the continued existence of SONCC coho salmon.

## **IX. INCIDENTAL TAKE STATEMENT**

Section 9 of the ESA and Federal regulations pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA section 3(18)]. NMFS interprets the term "harm" as "an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding or sheltering" (64 FR 60727). Incidental take is defined as take that is incidental to, and not the

purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and 7(o)(2), taking that is incidental to and not intended as part of the proposed action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with an Incidental Take Statement.

Permit 1072 Mod. 2 is for intentional take of SONCC coho salmon associated with scientific research and monitoring activities. Incidental take of endangered or threatened species is not anticipated, therefore, none is authorized by this biological opinion.

## **X. REINITIATION OF CONSULTATION**

This concludes formal consultation on Permit 1072 Mod. 2. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take specified in the Incidental Take Statement is exceeded, (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered, (3) the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in the biological opinion, or (4) a new species is listed or critical habitat designated that may be affected by the identified action. In instances where the amount or extent of incidental take is exceeded, formal consultation shall be reinitiated immediately.

## **XI. LITERATURE CITED**

### **A. Literature Cited**

- California Department of Fish and Game. 2000. Annual Report: Trinity River Basin salmon and steelhead monitoring project 1999-2000 season. California Department of Fish and Game. Northern California-North Coast Region.
- California Department of Fish and Game. 2001. California Department of Fish and Game 2001 Coho Presence Investigation. Northern California- North Coast Region.
- California Department of Fish and Game. 2005. Annual Report Trinity River Basin Salmon and Steelhead Monitoring Project 2003-2004 Season. Northern California- North Coast Region.
- Cramer, S. P., D. B. Lister, P. A. Monk, and K. L. Witty. 2003. A Review of Abundance Trends, Hatchery and Wild Fish Interactions, and Habitat Features for the Middle Columbia Steelhead ESU. S. P. Cramer & Associates, Inc, Sandy, OR.
- Good, T. P., R. S. Waples, and P. Adams (editors). 2005. Updated status of federally listed

ESUs of West Coast salmon and steelhead. United States Department of Commerce, NOAA Technical Memo NMFS-NWFSC-66.

National Marine Fisheries Service. 2000. National Marine Fisheries Service Guidelines for Electrofishing Waters Containing Salmonids Listed Under the Endangered Species Act. NMFS Northwest Region, Seattle, Washington. June.

National Marine Fisheries Service. 2001. Status review update for coho salmon (*Oncorhynchus kisutch*) from the Central California Coast and the California portion of the Southern Oregon/Northern California Coast evolutionarily significant units. Prepared by the Southwest Fisheries Science Center, Santa Cruz, CA. April. 40 pp.

National Marine Fisheries Service. 2002. Endangered Species Act section 7 programmatic biological opinion on the issuance of section 10(a)(1)(A) scientific research permits for take of threatened Central California Coast coho salmon, threatened Southern Oregon/Northern California Coasts coho salmon, threatened California Coastal Chinook salmon, threatened Central California Coast steelhead, and threatened Northern California steelhead. National Marine Fisheries Service, Southwest Region, Long Beach, CA. October 22.

National Marine Fisheries Service. 2003. Status review update for coho salmon (*Oncorhynchus kisutch*) from the Central California Coast and the California portion of the Southern Oregon/Northern California Coast evolutionarily significant units. Prepared by the Southwest Fisheries Science Center, Santa Cruz, CA. February. 92 pp.

Petros, P. 2006. Personal Communication. Fish Biologist. Hoopa Valley Tribal Fisheries Department. Hoopa, CA.

Sandercock, R. K. 1991. Life history of coho salmon (*Oncorhynchus kisutch*). In: Groot, C. and L. Margolis (editors), Pacific salmon life histories, pages 395-445. Univ. of British Columbia Press, Vancouver, Canada.

Smith, B. D. and B. R. Ward. 2000. Trends in wild adult steelhead (*Oncorhynchus mykiss*) abundance for coastal regions of British Columbia support the variable marine survival hypothesis. Canadian Journal of Aquatic Science 57: 271-284

Wainwright, T. C., and R. S. Waples. 1998. Prioritizing Pacific Salmon Stocks for Conservation: Response to Allendorf *et al.* 1997 October. Conservation Biology. pp. 1144-1147.

Waples, R. S. 1991. Definition of "Species" under the Endangered Species Act: Application to Pacific Salmon. NOAA Technical Memorandum NMFS F/NWC-194. 29 pp.

Weitkamp, L. A., T. C. Wainwright, G. J. Bryant, G. B. Milner, D. J. Teel, R. G. Kope, and R. S. Waples. 1995. Status Review of Coho Salmon from Washington, Oregon, and California. United States Department of Commerce, National Oceanic and Atmospheric Administration Technical Memorandum NMFS-NWFSC-24. 258 pp.

**B. Federal Register Notices Cited**

64 FR 60727. National Marine Fisheries Service. Final Rule. Endangered and Threatened Wildlife and Plants; Definition of "Harm." November 8, 1999.

64 FR 24049. National Marine Fisheries Service. Final Rule and Correction. Designated Critical Habitat; Central California Coast and Southern Oregon/Northern California Coasts Coho Salmon. May 5, 1999.

70 FR 37160. National Marine Fisheries Service. Final Rule. Endangered and Threatened Species: Final Listing Determinations for 16 ESUs of West Coast Salmon, and Final 4(d) Protective Regulations for Threatened Salmonid ESUs. June 28, 2005.

70 FR 52488. National Marine Fisheries Service. Final Rule. Endangered and Threatened Species; Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California. September 2, 2005.

71 FR 834. National Marine Fisheries Service. Final Rule. Endangered and Threatened Species: Final Listing Determinations for 10 Distinct Population Segments of West Coast Steelhead. January 5, 2006.



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE

Southwest Region  
501 West Ocean Boulevard, Suite 4200  
Long Beach, California 90802- 4213

MAR 25 2009

In response refer to:  
151401SWR2006AR00044

Mr. Michael Hamman  
United States Department of Interior  
Bureau of Reclamation  
Trinity River Restoration Program  
P.O. Box 1300  
Weaverville, California 96093

Dear Mr. Hamman:

On March 24, 2009, NOAA's National Marine Fisheries Service (NMFS) received an electronic mail from Mr. Brandt Gutermuth requesting to update the list of investigators authorized to work under Renewal and Modification number 2 of Permit 1072 (Permit 1072 Mod 2). This letter is to provide you with an updated list of investigators to work under Permit 1072 Mod 2. By this letter, NMFS hereby amends Permit 1072 Mod 2. The following list of investigators replaces the list of investigators in Permit 1072 Mod 2, issued to you on March 11, 2009:

Henry Alameda Jr., Jeremy Alameda, Justin Alvarez, Loren Aubrey, Mark Bowen, Joel Chase, Robert Chase, Richard Corwin, Brian Deason, Kyle Dejulio, Will Gray, Brandt Gutermuth, Robert Grubbs, John Hannon, Nathan Harris, Tim Hayden, John Heilman, Nina Hempill, Andy Hill, Monica Hiner, Dwight Hostler, Brian Jordan, Thomas Masten, Bill Matilton, Eric Matilton, Clyde Matilton, Jr., Aaron Martin, Seth Naman, Jason Peterson, Paul Petros, Katherine Potak-Zehfuss, Shane Quinn, Scott Silloway, Wade Sinnen, Ron Smith, Tim Ulrich

This list of investigators will remain in effect until requested otherwise or until the permit expires. It remains your responsibility, as the permit holder, to be certain that all of the above investigators are knowledgeable of the conditions contained in Permit 1072 Mod 2. A copy of Permit 1072 Mod 2 and a copy of this letter must be in the possession of at least one of the listed investigators while conducting permitted activities under Permit 1072 Mod 2.

Please contact Ms. Diane Ashton at (707) 825-5185, or by email at [diane.ashton@noaa.gov](mailto:diane.ashton@noaa.gov), if you have any questions or need further assistance with this permit.

Sincerely,

Irma Lagomarsino  
Arcata Area Office Supervisor

cc: Brandt Gutermuth – Trinity River Restoration Program  
File ARN 151401SWR2006AR00044



**Subject:** Additional Yurok Personnel for TRRP Section 10 permit # 1072

**From:** Brandt Gutermuth <bgutermuth@mp.usbr.gov>

**Date:** Tue, 24 Mar 2009 14:41:16 -0700

**To:** Diane Ashton <Diane.Ashton@noaa.gov>

Hi Diane -

Attached are the names and short bios of Yurok tribe fishery staff who will be working with the TRRP to collect Trinity River coho salmon provide info back to us concerning their size, timing, and use patterns (etc. ) in the lower Klamath/Trinity drainage. The Yurok have suggested that they will be working to secure programmatic coverage of their activities through an agreement with NMFS - but until that is completed, this information will be invaluable and should assist NMFS in the better management of the SONCC coho salmon. Please add these biologists to our permit as samplers.

I am sorry for this late request and appreciate your flexibility. Please give me a call if you have any questions.

Thanks for your help-  
Brandt

---

Brandt Gutermuth  
Environmental Specialist  
Trinity River Restoration Program  
PO Box 1300 (mailing)  
1313 S. Main Street (physical)  
Weaverville, CA 96093  
530.623.1806 (voice)  
530.623.5944 (fax)  
[www.trrp.net](http://www.trrp.net) (website)

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**YurokSection10\_Late\_Bios.docx** **Content-Type:** application/vnd.openxmlformats-officedocum  
**Content-Encoding:** base64

Contact Information:

Monica Hiner  
Fisheries Biologist II  
Yurok Tribal Fisheries Program  
15900 Highway 101 North  
Klamath, CA 95548  
(707) 482-2841 ext. 236  
Cell (707) 954-8259

Monica Hiner, Fisheries Biologist II

Monica received her B.S. in Environmental Field Biology from Lewis-Clark State College in 1997 and a M.S. in Fisheries Resources from the University of Idaho in 1999. She has over 10 years experience in sampling and handling a variety of salmonid populations in both Idaho and Northern California. While in Idaho, she worked on several projects sampling juvenile bull trout and chinook populations. Since her employment with the Yurok Tribe in 2000, she has gained experience sampling juvenile salmonid populations through methods such as outmigrant traps, electrofishing surveys (boat and backpack), snorkel surveys (direct count in small streams), fyke trapping, beach seining, and minnow trapping. Juvenile salmonid sampling she has been involved in occurred in the mainstem Trinity River, Blue Creek, McGarvey Creek, Hunter Creek, Terwer Creek, numerous small tributaries to the Lower Klamath River, and Klamath River estuary. She was also involved in enumerating fish during the Klamath River fish kill of 2002 in the mainstem Klamath River and Blue Creek. Her experience also includes adult salmonid dive surveys in Terwer and Blue Creek and monitoring adult coho movement into Lower Waukell, McGarvey, and Salt Creeks. She has worked extensively with coho during the past year on a project funded by the Bureau of Reclamation investigating overwintering habitat use in the Lower Klamath River.

Scott Silloway, Fisheries Biologist I

Scott received his B.A. in Environmental Sciences in 1995 from Gustavus Adolphus College in St. Peter, Minnesota. After college and spending several years working for the California Conservation Corps and Watershed Stewards AmeriCorps Program, Scott worked for the California Department of Fish and Game (CDFG) as a Scientific Aide between 1999 – 2003 and for the Humboldt Institute for River Ecosystems (HSU Foundation) as a Research Associate between 2003 – 2008. Scott has over 10 years experience working with salmonids, mainly in Freshwater Creek and the Mad River. His experience working with juvenile salmonids during that time include downstream migrant trapping using screw traps, incline plane traps, pipe traps, backpack electrofishing, juvenile abundance surveys (diving, electrofishing, habitat typing), river seining, and beach seining. Adult trapping handling experience includes sampling both upstream and downstream moving salmon in Freshwater Creek and conducting spawner/carcass surveys in

Freshwater Creek. Scott has been employed with the Yurok Tribe since March 2008 and has been intensively sampling overwintering habitats juvenile coho utilize using fyke nets, conducting single stream estimate surveys, and doing electrofishing surveys. Scott is attending training in March, 2009 to become NMFS certified for electrofishing surveys.

Robert Grubbs, Fisheries Technician II

Robert has worked for the Yurok Tribal Fisheries Program since 2006 on a variety of projects. For the past year and a half, he has been working extensively on the juvenile coho overwintering survey sampling a variety of habitats with fyke nets. He has also helped install and monitor salmonids in McGarvey Creek using a modified pipe trap and assisted with single stream estimates in McGarvey Creek during 2008. Robert is attending training in March, 2009 to become NMFS certified for electrofishing surveys.



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE

Southwest Region  
501 West Ocean Boulevard, Suite 4200  
Long Beach, California 90802- 4213

MAY 06 2010

In response refer to:  
151401SWR2006AR00044

Ms. Jennifer Faler  
Acting Executive Director  
United States Department of Interior  
Bureau of Reclamation  
Trinity River Restoration Program  
P.O. Box 1300  
Weaverville, California 96093

Dear Ms. Faler:

On May 5, 2010, NOAA's National Marine Fisheries Service (NMFS) received an electronic mail from Mr. Brandt Gutermuth requesting to update the list of investigators authorized to work under Renewal and Modification number 2 of Permit 1072 (Permit 1072 Mod 2). This letter is to provide you with an updated list of investigators to work under Permit 1072 Mod 2. By this letter, NMFS hereby amends Permit 1072 Mod 2. The following list of investigators replaces the list of investigators in Permit 1072 Mod 2, issued to you on April 29, 2010.

Henry Alameda Jr., Jeremy Alameda, Justin Alvarez, Andrew Antonetti, Loren Aubrey, Mark Bowen, Joel Chase, Robert Chase, Richard Corwin, Kyle Dejulio, Will Gray, Brandt Gutermuth, Robert Grubbs, John Hannon, Nathan Harris, Tim Hayden, John Heilman, Nina Hempill, Andy Hill, Monica Hiner, Dwight Hostler, Amy Jenkins, Brian Jordan, Thomas Masten, Bill Matilton, Clyde Matilton, Jr., Eric Matilton, Aaron Martin, Seth Naman, Jason Peterson, Paul Petros, Katherine Potak-Zehfuss, Shane Quinn, Scott Silloway, Wade Sinnen, Ron Smith, Tim Ulrich, Eric Wiseman

This list of investigators will remain in effect until requested otherwise or until the permit expires. It remains your responsibility, as the permit holder, to be certain that all of the above investigators are knowledgeable of the conditions contained in Permit 1072 Mod 2. A copy of Permit 1072 Mod 2 and a copy of this letter must be in the possession of at least one of the listed investigators while conducting permitted activities under Permit 1072 Mod 2.

Please contact Ms. Diane Ashton at (707) 825-5185, or by email at [diane.ashton@noaa.gov](mailto:diane.ashton@noaa.gov), if you have any questions or need further assistance with this permit.

Sincerely,

Irma Lagomarsino  
Arcata Area Office Supervisor

cc: Brandt Gutermuth – Trinity River Restoration Program  
File ARN 151401SWR2006AR00044



## Hiatt, Kristen L

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**From:** Korson, Charles S (Chuck)  
**Sent:** Tuesday, October 12, 2010 7:50 AM  
**To:** Hiatt, Kristen L  
**Subject:** FW: Bureau of Reclamation Grant to Yurok Tribe for Installation of PIT Tag systems for Coho

NOAA concurrence. Hope the CEC can be completed soon. C.K.

---

**From:** Diane Ashton [<mailto:Diane.Ashton@noaa.gov>]  
**Sent:** Friday, October 08, 2010 3:00 PM  
**To:** Korson, Charles S (Chuck)  
**Subject:** RE: Bureau of Reclamation Grant to Yurok Tribe for Installation of PIT Tag systems for Coho

I believe I have provided you with enough documentation to support that conclusion. NMFS has not modified the permit to include that site specifically; however the take associated with those efforts, along with all the other studies being conducted under permit 1072 M2, is consistent with the amount of take of SONCC coho salmon analyzed in NMFS biological opinion on NMFS issuance Permit 1072 M2.

---

**From:** Korson, Charles S (Chuck) [<mailto:CKorson@usbr.gov>]  
**Sent:** Friday, October 08, 2010 1:32 PM  
**To:** Diane Ashton  
**Subject:** RE: Bureau of Reclamation Grant to Yurok Tribe for Installation of PIT Tag systems for Coho

One more thing which would be helpful. Can you issue a statement indicating that NMFS concurs that the incidental take coverage under Permit 1072 will cover any incidental take likely to occur by funding the Yurok Tribe to undertake fish research in McGarvey Creek in the Lower Klamath River basin?

---

**From:** Diane Ashton [<mailto:Diane.Ashton@noaa.gov>]  
**Sent:** Friday, October 08, 2010 1:12 PM  
**To:** Korson, Charles S (Chuck)  
**Subject:** RE: Bureau of Reclamation Grant to Yurok Tribe for Installation of PIT Tag systems for Coho

Hi Chuck, Please find attached the following: (1) section 7 biological opinion for section 10(a)(1)(A) permit 1072 M2; (2) 3/24/09 request to add Yurok tribal fisheries staff to the list of investigators; (3) NMFS 3/25/09 letter updating list of investigators ; and (4) NMFS 5/6/10 letter updating list of investigators. I know Brandt will want to have Monica will be added to the 2010 list of investigators since she was recently re-hired by the Yurok tribe. I hope this information is helpful, and will satisfy NEPA.

Diane

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**From:** Korson, Charles S (Chuck) [<mailto:CKorson@usbr.gov>]  
**Sent:** Friday, October 08, 2010 11:38 AM  
**To:** [diane.ashton@noaa.gov](mailto:diane.ashton@noaa.gov)  
**Cc:** Hiatt, Kristen L  
**Subject:** Bureau of Reclamation Grant to Yurok Tribe for Installation of PIT Tag systems for Coho

Diane: Thanks very much for taking the time to discuss the ESA Section 10 and 7 permitting aspects for this Fiscal Year 2010 grant project (Grant NO. R10AP20085) the Klamath Basin Area Office(KBAO) has recently funded. As discussed, I would appreciate you sending me the ESA Section 7 Biological Opinion which National Marine Fisheries Service has issued on May 11, 2006 for the Section 10(a)(1) take permit 1072 which was issued to the Trinity River Restoration Program (TRRP) and which you also indicated will cover the expected take under this grant project funded by KBAO. I

also understand that you are going to verify that the Yurok Tribe researchers Scott Silloway and Monica Hiner have been added to the permit to conduct the 2010 research work which will occur in McGarvey Creek under our grant.

I appreciate your help and cooperation which will allow Reclamation KBAO to complete our internal National Environmental Policy Act, ESA Section 7, and National Historic Preservation Act compliance responsibilities. As you requested, I have attached a bit more information about our grant project with the Yurok Tribe.

Let me know if you have any further questions.

Chuck Korson  
Fish Passage and Restoration Program Manager  
Bureau of Reclamation, Klamath Basin Area Office  
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